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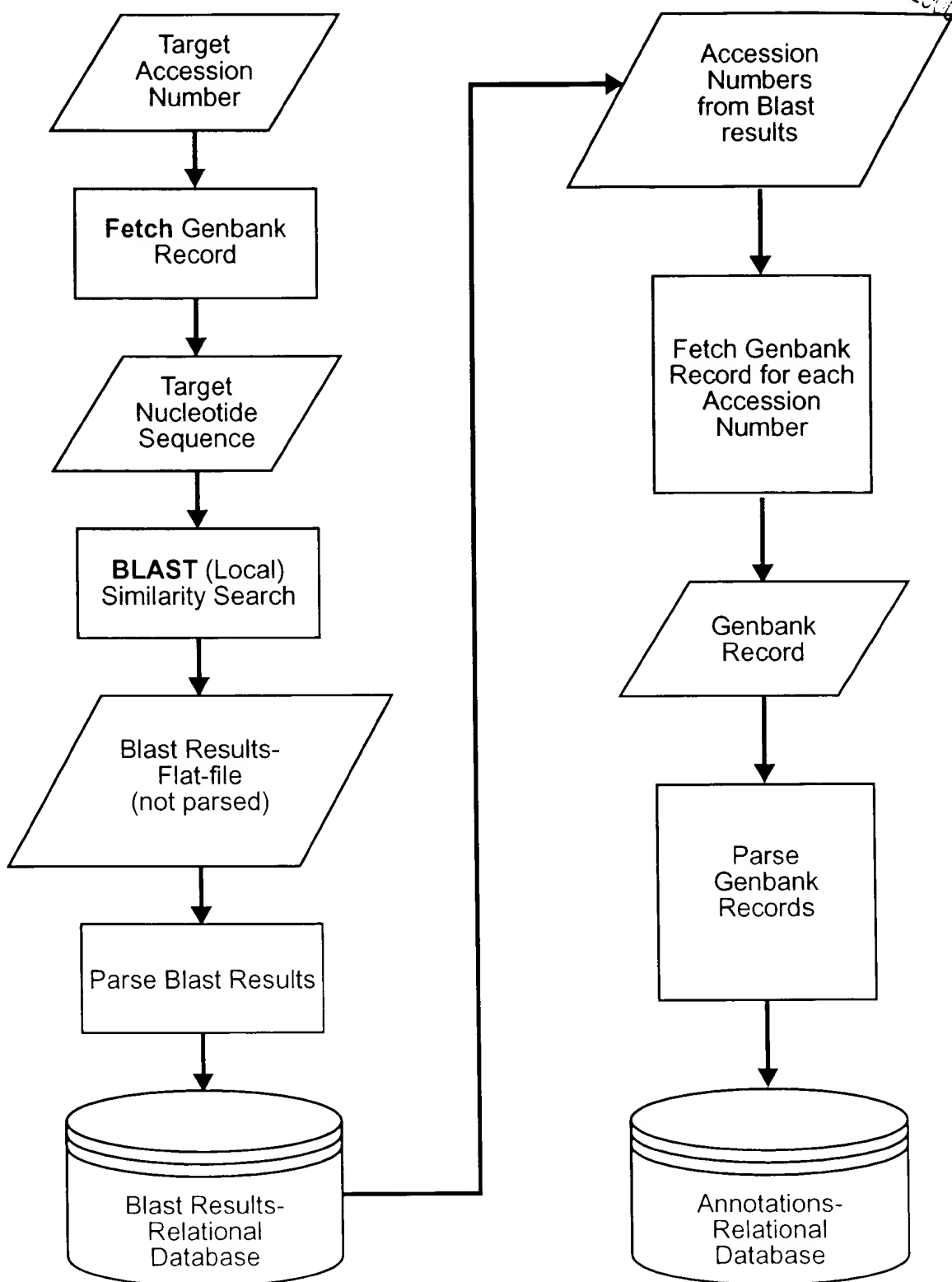


Figure 3



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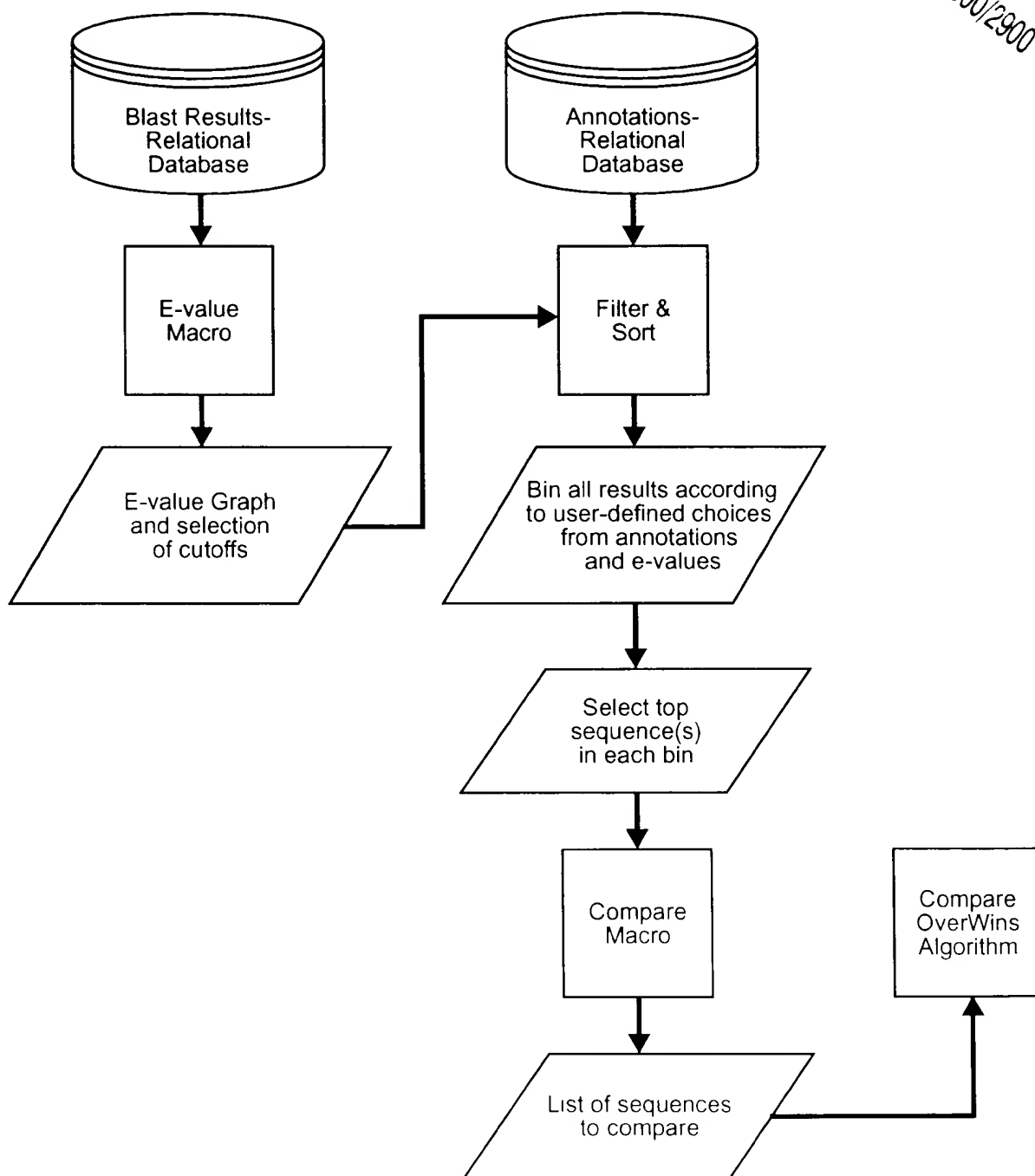
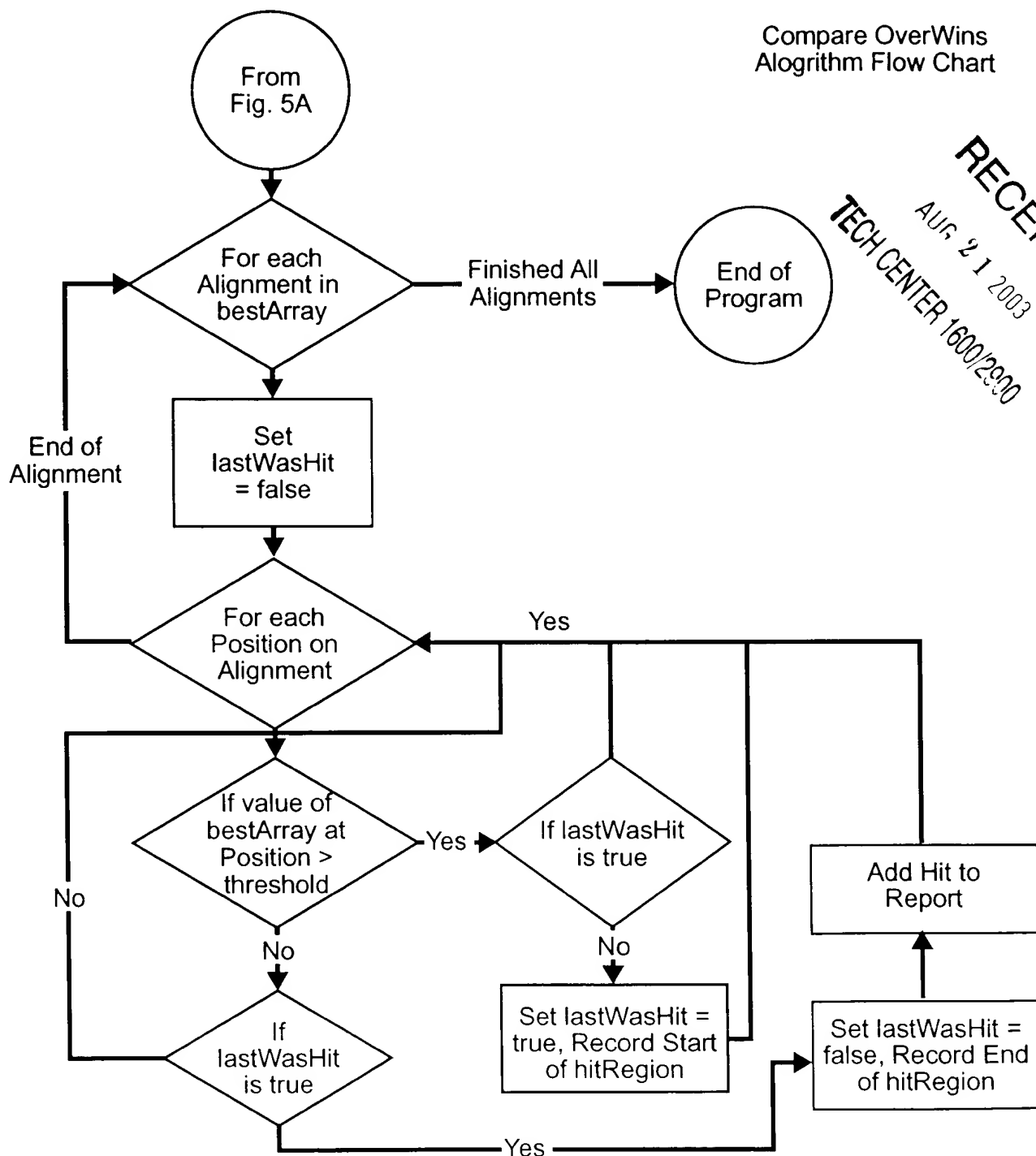


Figure 4



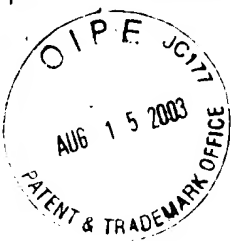
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Compare OverWins  
Algorithm Flow Chart



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Figure 5B



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Input:  
Sequence A length a  
Sequence B length b  
Window Size

Output:  
Array of size a by b of unsigned chars (0-255)  
Each point represents the number of matches in the  
window at that alignment and position

Compare OverWins  
Algorithm Flow Chart  
Basic Compare

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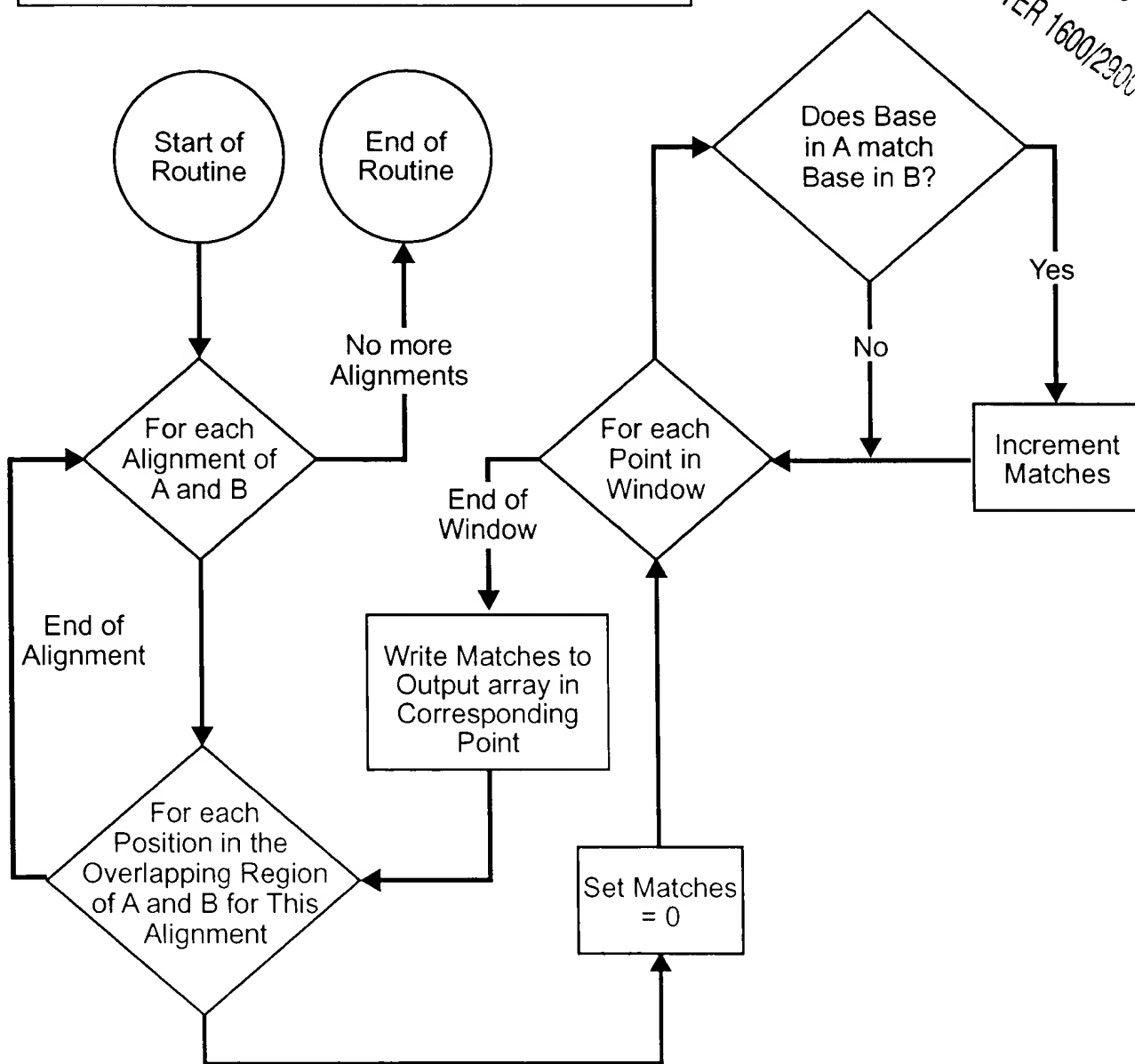
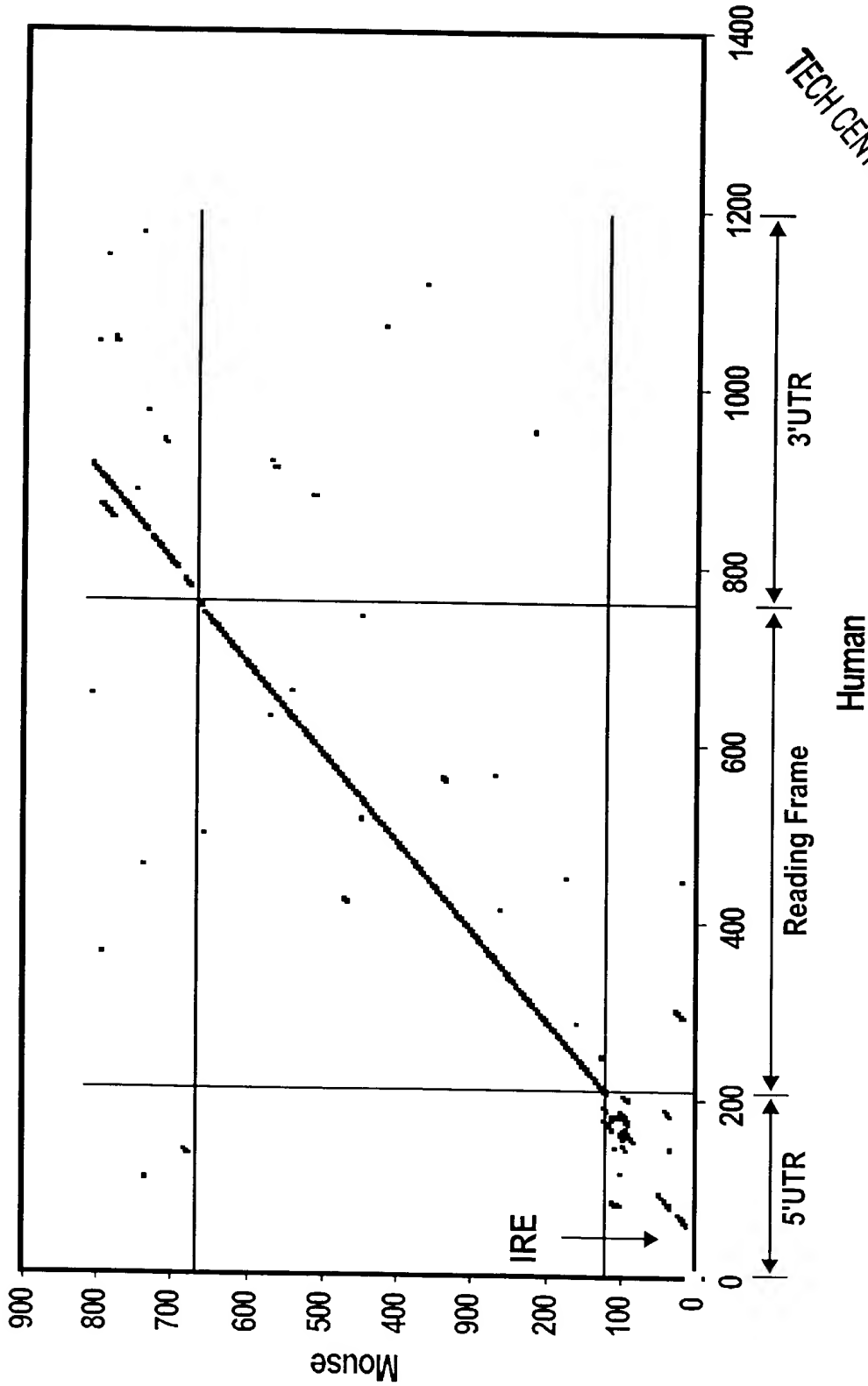


Figure 5C



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Figure 6



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Self Complementation Analysis - Single Sequence

3'	G	A	C	G	A	A	G	U	U	G	C	A	C	G	A	A	C	C	U	A	C	C	5'
23																							
22	*	&		*		*																	
21		&	*			*																	
20			*			*																	
19				*		*																	
18				*		*																	
17					*	*																	
16							*																
15							*																
14							*																
13							*																
12							*																
11							*																
10							*																
9							*																
8							*																
7							*																
6							*																
5							*																
4							*																
3							*																
2							*																
1							*																
5'	C	U	G	C	U	U	C	A	A	C	A	G	U	G	C	U	U	G	G	A	U	G	3'

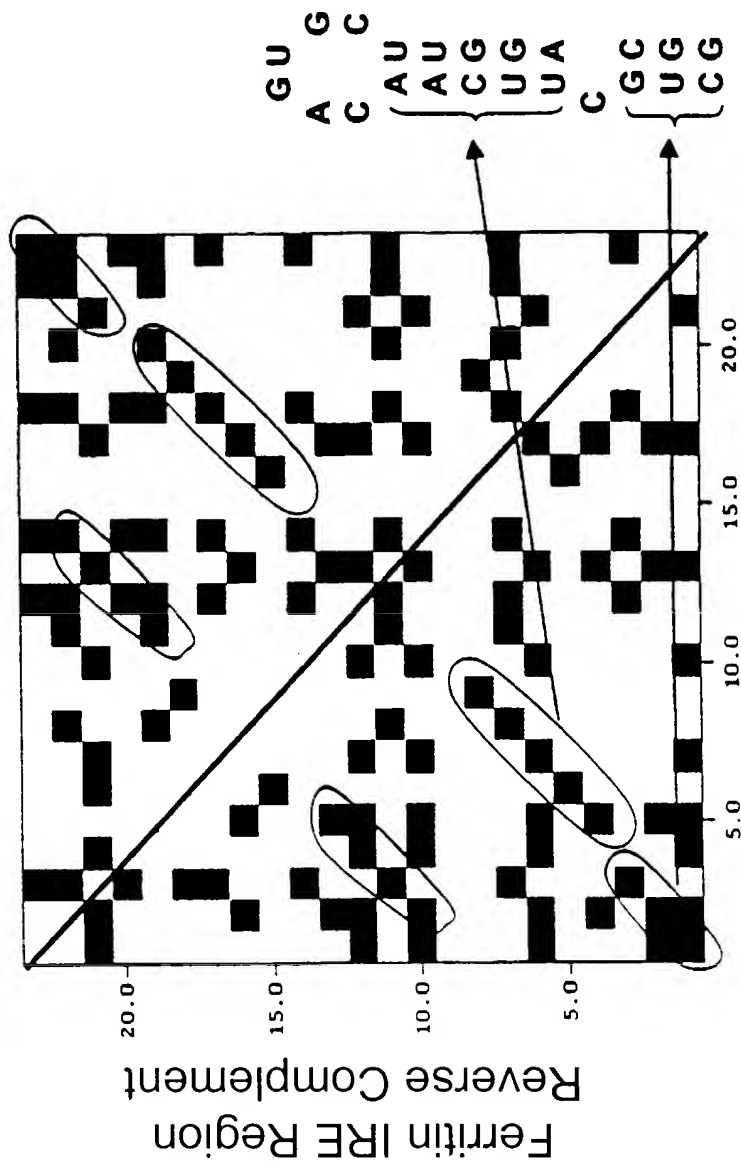
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Figure 7

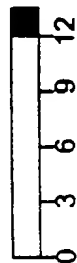


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# Self Complementarity Comparisons 13 ortholog overlay



Ferritin IRE Region



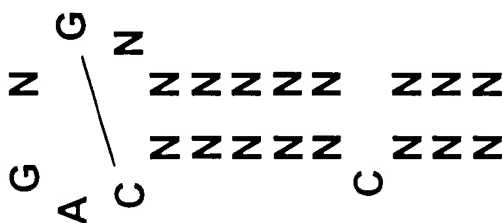
Number of Orthologs

Figure 8

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IRE

## Stem-loop Model

## IRE String descriptor

This descriptor allows for

- a wobble (W) of 2
- no mismatches
- N can be any nucleotide
- H refers to the stem region
- S refers to the single stranded region

H1	S1	H2	S2	H1
----	----	----	----	----

# H1 3:3 NNN:NNN

511 C

## H2 5:5 NNNNN:NNNNN

S2 6 CAGNGN

W2

MO

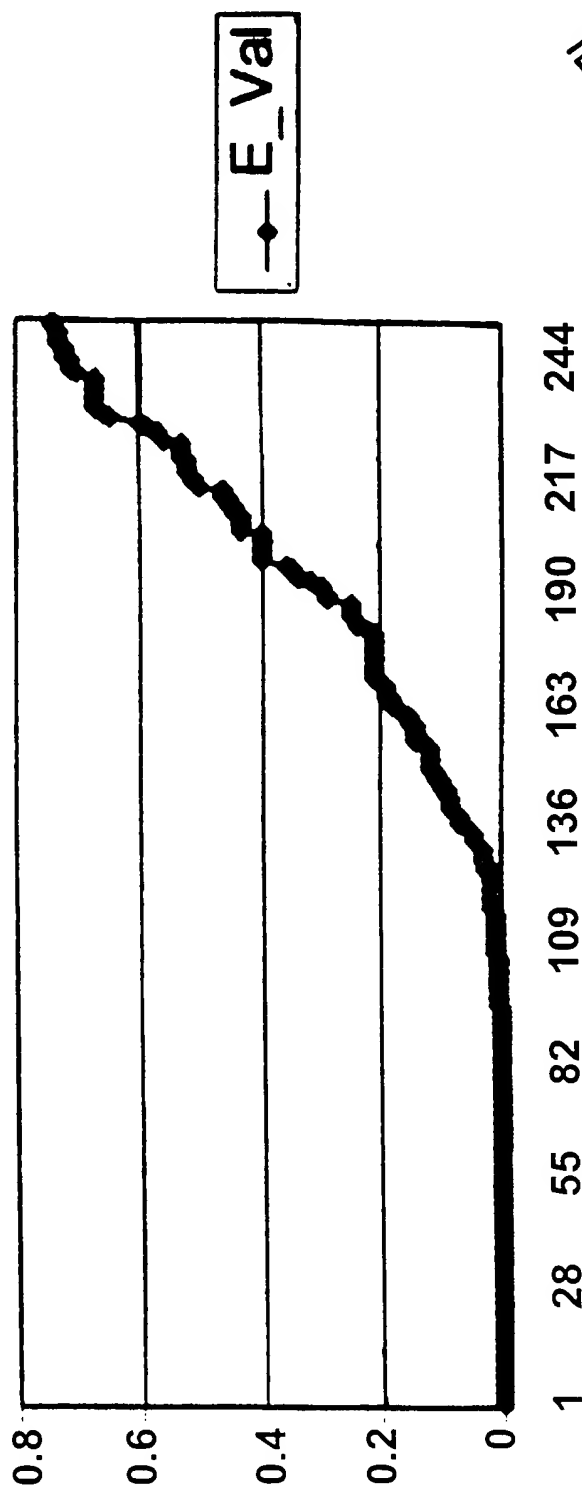
### Figure 9





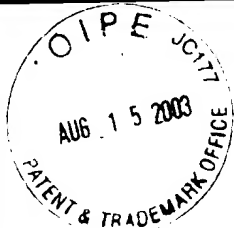
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E-Val



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Figure 10



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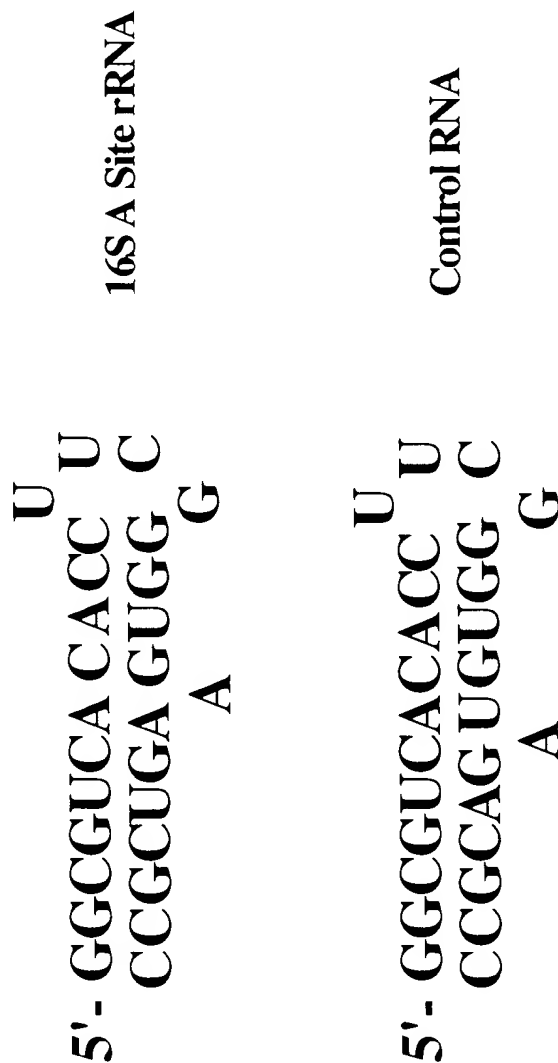
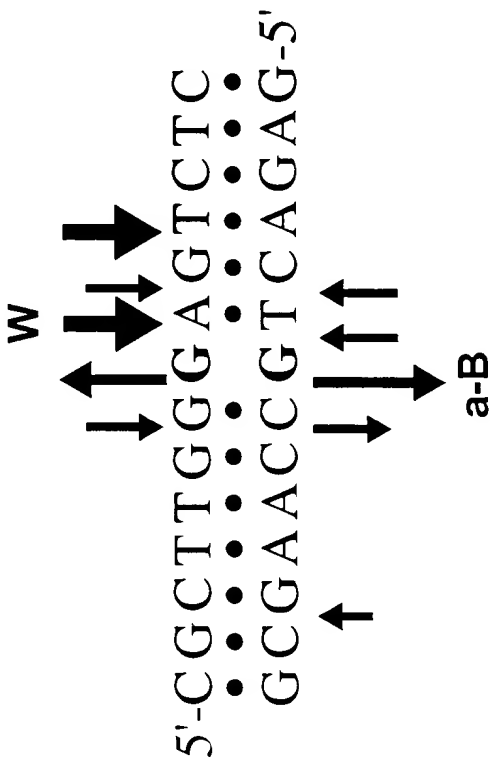


Figure 40

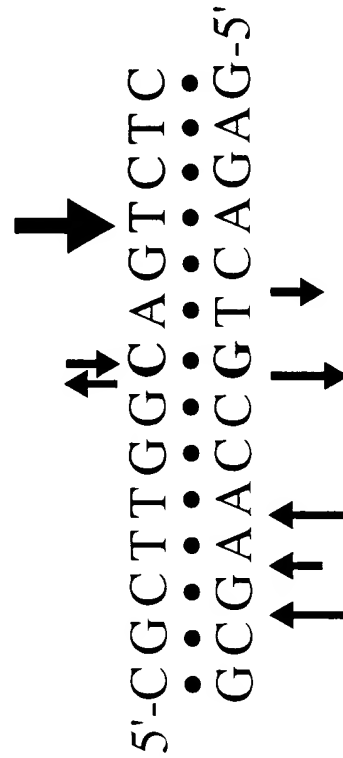


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A.



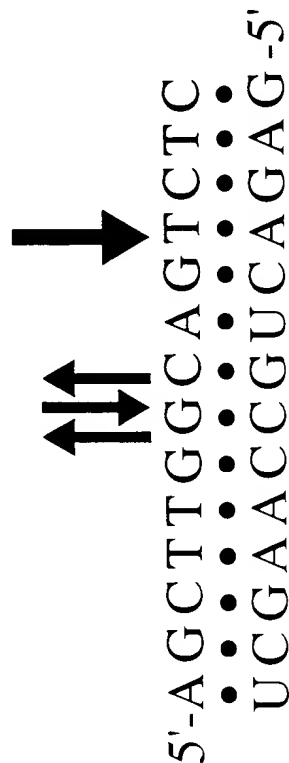
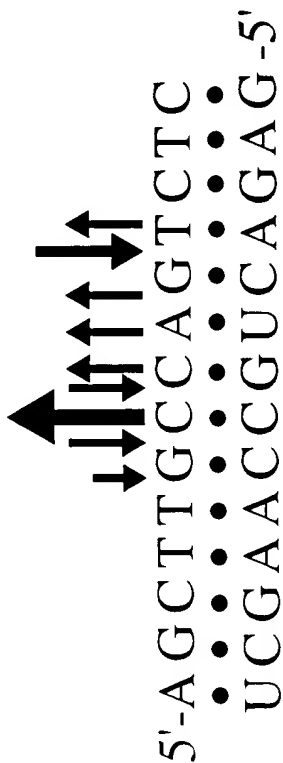
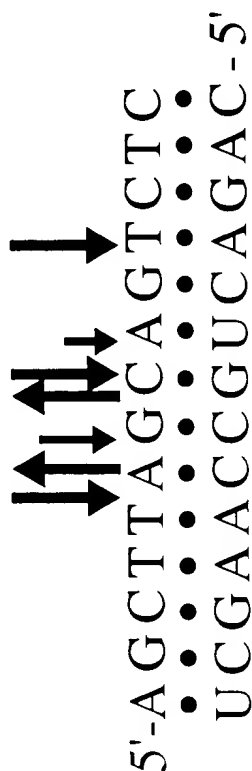
B.

Figure 47



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MS Fragmentation of DNA:RNA duplexes

Figure 48



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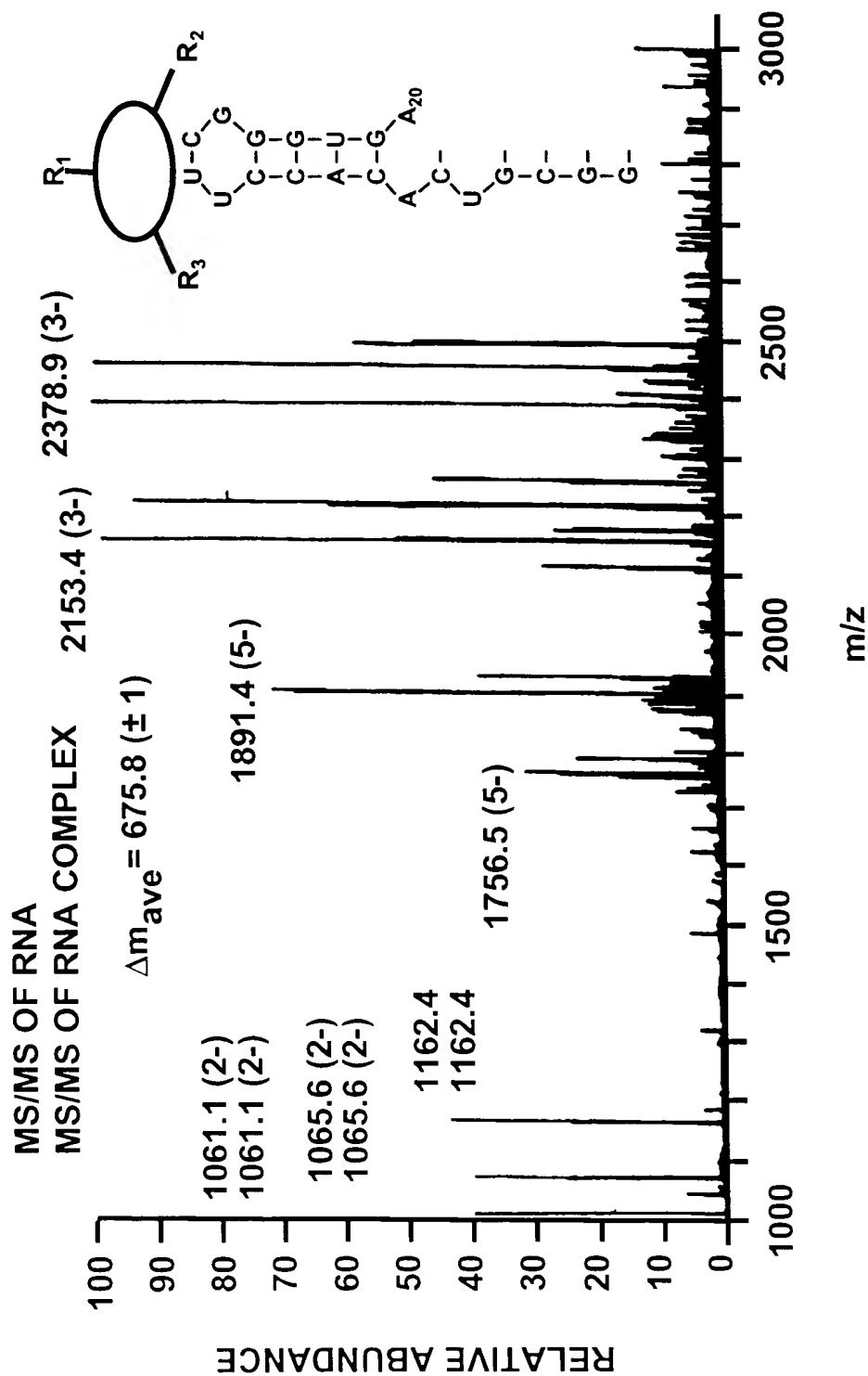
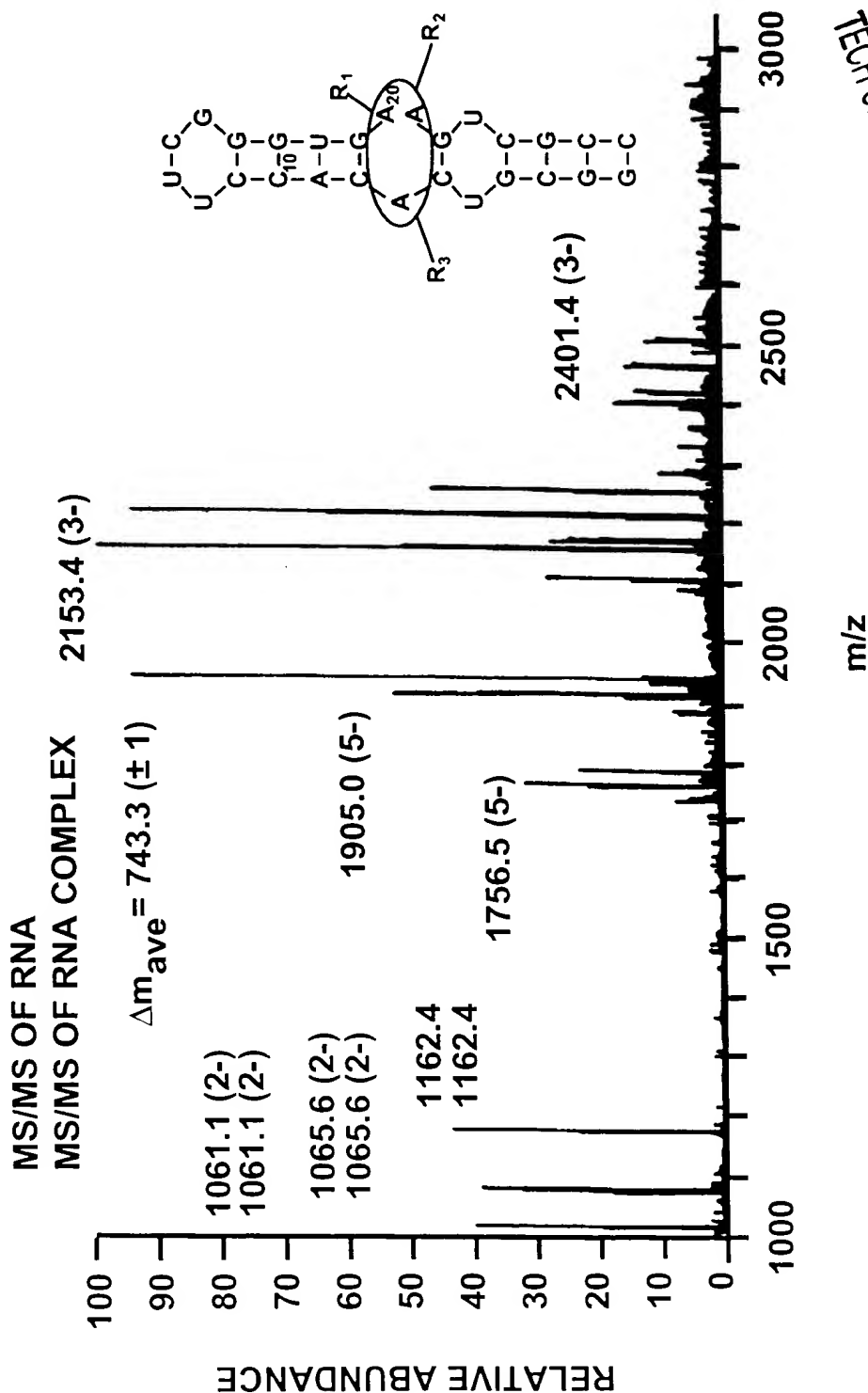


Figure 49



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Figure 50